

# STIC Search Report Biotech-Chem Library

## STIC Database Tracking Number: 132662

TO: Shailendra Kumar Location: 5c03 / 5c18

Tuesday, September 21, 2004

Art Unit: 1621 Phone: 272-0640

Serial Number: 10 / 706594

From: Jan Delaval

**Location: Biotech-Chem Library** 

**Rem 1A51** 

Phone: 272-2504

jan.delaval@uspto.gov

Search Notes			
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PTO-1590 (8-01)

### **SEARCH REQUEST FORM**

#### Scientific and Technical Information Center

Requester's Full Name:	Kumar	Examiner #: 69594 Date: 9/6) OL	ł
Art Unit: <u>\62\</u> Phone N Mail Box and Bldg/Room Location	: <b>REM</b> 5C)& Resu	O Serial Number: 10 106595 lts Format Preferred (circle): PAPER DISK E-M	AIL
If more than one search is subm	წCOქ itted, please prioritiz *********	e searches in order of need.	***
Please provide a detailed statement of the Include the elected species or structures, k	search topic, and describe a eywords, synonyms, acron that may have a special me	as specifically as possible the subject matter to be searched, yms, and registry numbers, and combine with the concept caning. Give examples or relevant citations, authors, etc, if	or
Title of Invention: Polycyc	lic anyl and,	neteroayl substituted benzenes	
Inventors (please provide full names):	Michael S.	South et of.	
Earliest Priority Filing Date:	3/13/2000		
*For Sequence Searches Only* Please includappropriate serial number.	de all pertinent information (	parent, child, divisional, or issued patent numbers) along with th	he
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		exyphenyl, B is cyclobutyl, A is a bond, You is 4	•
amidir	nobenzyl, J is fluoro, and	IR <sup>1</sup> is hydrido;	
STAFF USE ONLY	Type of Search	Vendors and cost where applicable	
Searcher:a_	NA Sequence (#)	STN	•
Searcher Phone #: 22504	AA Sequence (#)	Dialog	
Searcher Location:	Structure (#)	Questel/Orbit	
Date Searcher Picked Up: 912	Bibliographic	Dr.Link	
Date Completed: 9121	Litigation	Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext	Sequence Systems	
Clerical Prep Time:	Patent Family	WWW/Internet	
Online Time: TLO	Other	Other (specify)	

=> fil reg

FILE 'REGISTRY' ENTERED AT 08:45:31 ON 21 SEP 2004
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STRUCTURE FILE UPDATES: 19 SEP 2004 HIGHEST RN 748118-51-6 DICTIONARY FILE UPDATES: 19 SEP 2004 HIGHEST RN 748118-51-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

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L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 361340-15-0 REGISTRY

FS 3D CONCORD

MF C27 H28 F N5 O3

SR CA

LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

$$\begin{array}{c} \text{NH}_2 \\ \text{O} \\ \text{C} \\ \text{CH}_2 \\ \text{C} \\ \text{NH} \\ \text{C} \\ \text{NH} \\ \text{NH} \\ \end{array}$$

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
  - 1 REFERENCES IN FILE CA (1907 TO DATE)
  - 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:257039

=> d his

(FILE 'HOME' ENTERED AT 08:40:44 ON 21 SEP 2004) SET COST OFF

FILE 'HCAPLUS' ENTERED AT 08:40:54 ON 21 SEP 2004

L1 1 S (US20040138275 OR US6660885 OR US20020025947)/PN OR (WO2001-U SEL RN

FILE 'REGISTRY' ENTERED AT 08:42:11 ON 21 SEP 2004

L2 381 S E1-E381

L3 1 S L2 AND C27H28FN5O3

SEL RN

L4 0 S E382/CRN

FILE 'HCAOLD' ENTERED AT 08:45:12 ON 21 SEP 2004

L5 0 S L3

FILE 'HCAPLUS' ENTERED AT 08:45:13 ON 21 SEP 2004

L6 1 S L3

FILE 'USPATFULL, USPAT2' ENTERED AT 08:45:13 ON 21 SEP 2004

L7 4 S L3

FILE 'REGISTRY' ENTERED AT 08:45:31 ON 21 SEP 2004

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 08:46:36 ON 21 SEP 2004
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FILE COVERS 1907 - 21 Sep 2004 VOL 141 ISS 13 FILE LAST UPDATED: 20 Sep 2004 (20040920/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

#### => d l6 all hitstr

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:693283 HCAPLUS

DN 135:257039

ED Entered STN: 21 Sep 2001

TI Preparation of polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade

IN South, Michael S.; Parlow, John J.

PA Pharmacia Corporation, USA

SO PCT Int. Appl., 437 pp.

CODEN: PIXXD2

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DT
     Patent
LA
     English
IC
     ICM C07D211-26
     ICS C07D213-40; C07D521-00; C07C257-18; C07C311-21; A61K031-4465;
          A61P007-02
CC
     25-19 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
     Section cross-reference(s): 1
FAN.CNT 1
     PATENT NO.
                                  DATE
                          KIND
                                               APPLICATION NO.
                                                                        DATE
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PΙ
     WO 2001068605
                           A1
                                  20010920
                                               WO 2001-US7918
                                                                        20010313
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              CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
              HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
              LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
              RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
              VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
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     US 2002025947
                           A1
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     US 2003236231
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PRAI US 2000-188943P
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     US 2000-252159P
                           Ρ
                                  20001120
     US 2001-804959
                           Α1
                                  20010313
     WO 2001-US7918
                                  20010313
CLASS
 PATENT NO.
                  CLASS
                         PATENT FAMILY CLASSIFICATION CODES
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                          WO 2001068605
                  ICM
                         C07D211-26
                         C07D213-40; C07D521-00; C07C257-18; C07C311-21;
                  ICS
                         A61K031-4465; A61P007-02
US 2002025947
                  ECLA
                         C07C257/18; C07C311/13; C07C323/49; C07C323/63;
                         C07D211/26; C07D213/40B; C07D521/00B1N3
os
     MARPAT 135:257039
GΙ
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Ι

ΙI

AB The title compds. [I; J = H, halo, OH, etc.; B = (un) substituted aryl, heteroaryl; A = a bond, CH2SO2, CH2, (CH2)2, etc.; Y = NH, O, CO, etc.; X0, R1, R2 = H, alkyl, halo, etc.; K = a bond, CH2, etc.; E0 = a bond, O, CONH, etc.; Y0 = (4-piperidinyl)methyl, (amidino)benzyl, etc.] and their pharmaceutically acceptable salts, useful as inhibitors of serine proteases of the coagulation cascade, were prepared E.g., a multi-step synthesis of II.HCl which showed IC50 of > 30 μM against factor VIIa, factor Xa and thrombin, and IC50 of 0.3 µM against trypsin, was given. ST benzamidine polycyclic aryl heteroaryl prepn anticoagulant platelet aggregation inhibitor; benzene polycyclic aryl heteroaryl prepn anticoagulant platelet aggregation inhibitor; serine protease inhibitor benzamidine polycyclic aryl heteroaryl prepn; factor VIIa Xa inhibitor benzamidine polycyclic aryl heteroaryl prepn; thrombin inhibitor benzamidine polycyclic aryl heteroaryl prepn; trypsin inhibitor benzamidine polycyclic aryl heteroaryl prepn IT Anticoagulants Platelet aggregation inhibitors

IT

(preparation of polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade)

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    RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
    BIOL (Biological study); PREP (Preparation); USES (Uses)
        (preparation of polycyclic aryl and heteroaryl substituted benzenes useful
        for selective inhibition of the coagulation cascade)
                                  361339-81-3P
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IT
    361339-79-9P
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     study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
    BIOL (Biological study); PREP (Preparation); USES (Uses)
        (preparation of polycyclic aryl and heteroaryl substituted benzenes useful
        for selective inhibition of the coagulation cascade)
     9002-04-4, thrombin
                          9002-05-5, factor Xa
                                                 9002-07-7, trypsin
IT
     37259-58-8, serine protease 65312-43-8, factor VIIa
     RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL
     (Biological study)
        (preparation of polycyclic aryl and heteroaryl substituted benzenes useful
        for selective inhibition of the coagulation cascade)
     67-64-1, Acetone, reactions 100-52-7, Benzaldehyde, reactions
IT
     108-98-5, Thiophenol, reactions
                                      122-78-1, Phenylacetaldehyde
                                                                      591-19-5,
                    813-19-4, Bis (tributyltin)
     m-Bromoaniline
                                                 960-16-7
                                                             1939-99-7,
     α-Toluenesulfonyl chloride 3731-53-1, 4-Pyridylmethylamine
     5036-48-6, 3-(Imidazol-1-yl)propylamine 7144-05-0, 4-
                            7304-32-7, 2-Fluoro-5-nitrobenzoic acid
     Piperidinemethanamine
     19293-58-4, 4-Dimethylaminobenzylamine
                                             85068-28-6, 2,6-
                                147291-50-7
                                              162698-22-8
                                                           226942-83-2
    Difluorophenylacetic acid
     361337-21-5
                  361337-22-6
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        (preparation of polycyclic aryl and heteroaryl substituted benzenes useful
        for selective inhibition of the coagulation cascade)
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    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (preparation of polycyclic aryl and heteroaryl substituted benzenes useful
        for selective inhibition of the coagulation cascade)
ΙT
    361336-87-0P
                    361336-91-6P
                                  361337-07-7P
     RL: SPN (Synthetic preparation); PREP (Preparation)
```

(preparation of polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade)

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT RE

(1) Illig, C; US 5741819 A 1998 HCAPLUS

(2) Ljungberg; EUR J PHAR SCI 2001, V12(4), P441 HCAPLUS

(3) Terumo Corp; JP 07233148 A 1995 HCAPLUS

361340-15-0P

CN

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of polycyclic aryl and heteroaryl substituted benzenes useful

for selective inhibition of the coagulation cascade)

RN 361340-15-0 HCAPLUS

[1,1'-Biphenyl]-3-carboxylic acid, 5-amino-2'-[2-[[[4-(aminoiminomethyl) phenyl] methyl] amino] -2-oxoethyl] -4'-(cyclobutylamino) -3'fluoro- (9CI) (CA INDEX NAME)

=> fil uspatall

FILE 'USPATFULL' ENTERED AT 08:46:44 ON 21 SEP 2004 CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 08:46:44 ON 21 SEP 2004 CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr tot 17

L7ANSWER 1 OF 4 USPATFULL on STN

AN2004:179105 USPATFULL

Polycyclic aryl and heteroaryl substituted benzenes useful for selective TI inhibition of the coagulation cascade

South, Michael S., St. Louis, MO, UNITED STATES IN

Parlow, John J., Arnold, MO, UNITED STATES Pharmacia Corporation (U.S. corporation) PΑ

PΙ US 2004138275 A1 20040715

ΑI US 2003-706595 **A1** 20031112 (10)

RLI Continuation of Ser. No. US 2001-804959, filed on 13 Mar 2001, GRANTED,

Pat. No. US 6660885 PRAI US 2000-252159P 20001120 (60)

US 2000-188943P 20000313 (60)

DT Utility

FS APPLICATION

LREP SENNIGER POWERS LEAVITT AND ROEDEL, ONE METROPOLITAN SQUARE, 16TH FLOOR, ST LOUIS, MO, 63102

CLMN Number of Claims: 59 ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 12687

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The invention relates to polycyclic aryl and heteroaryl substituted benzene compounds useful as inhibitors of serine proteases of the coagulation cascade and compounds, compositions and methods for anticoagulant therapy for the treatment and prevention of a variety of thrombotic conditions including coronary artery and cerebrovascular diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 361340-15-0P

CN

(preparation of polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade)

RN 361340-15-0 USPATFULL

[1,1'-Biphenyl]-3-carboxylic acid, 5-amino-2'-[2-[[[4-(aminoiminomethyl)phenyl]methyl]amino]-2-oxoethyl]-4'-(cyclobutylamino)-3'-fluoro-(9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & \text{NH}_2 \\ & \text{NH}_2 \\ & \text{C} \\$$

L7 ANSWER 2 OF 4 USPATFULL on STN

AN 2003:335353 USPATFULL

TI Polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade

IN South, Michael S, St Louis, MO, UNITED STATES

Parlow, John J, Arnold, MO, UNITED STATES

PI US 2003236231 A1 20031225

AI US 2002-203866 A1 20021113 (10)

WO 2001-US7918 20010313

DT Utility

FS APPLICATION

LREP SENNIGER POWERS LEAVITT AND ROEDEL, ONE METROPOLITAN SQUARE, 16TH FLOOR, ST LOUIS, MO, 63102

CLMN Number of Claims: 59

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 12689

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The invention relates to polycyclic aryl and heteroaryl substituted benzene compounds useful as inhibitors of serine proteases of the coagulation cascade and compounds, compositions and methods for anticoagulant therapy for the treatment and prevention of a variety of thrombotic conditions including coronary artery and cerebrovascular diseases.

#### IT 361340-15-0P

(preparation of polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade)

RN 361340-15-0 USPATFULL

CN [1,1'-Biphenyl]-3-carboxylic acid, 5-amino-2'-[2-[[4-(aminoiminomethyl)phenyl]methyl]amino]-2-oxoethyl]-4'-(cyclobutylamino)-3'-fluoro-(9CI) (CA INDEX NAME)

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L7 ANSWER 3 OF 4 USPATFULL on STN
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AN 2002:43580 USPATFULL

Polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade

IN South, Michael S., St. Louis, MO, UNITED STATES

Parlow, John J., Arnold, MO, UNITED STATES

PI US 2002025947 A1 20020228

US 6660885 B2 20031209

AI US 2001-804959 A1 20010313 (9)

PRAI US 2000-252159P 20001120 (60)

US 2000-188943P 20000313 (60)

DT Utility

FS APPLICATION

LREP SENNIGER POWERS LEAVITT AND ROEDEL, ONE METROPOLITAN SQUARE, 16TH FLOOR, ST LOUIS, MO, 63102

CLMN Number of Claims: 59

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 12668

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to polycyclic aryl and heteroaryl substituted benzene compounds useful as inhibitors of serine proteases of the coagulation cascade and compounds, compositions and methods for anticoagulant therapy for the treatment and prevention of a variety of thrombotic conditions including coronary artery and cerebrovascular diseases.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

#### IT 361340-15-0P

(preparation of polycyclic aryl and heteroaryl substituted benzenes useful for selective inhibition of the coagulation cascade)

RN 361340-15-0 USPATFULL

CN [1,1'-Biphenyl]-3-carboxylic acid, 5-amino-2'-[2-[[[4-(aminoiminomethyl)phenyl]methyl]amino]-2-oxoethyl]-4'-(cyclobutylamino)-3'-fluoro-(9CI) (CA INDEX NAME)

3'-fluoro- (9CI) (CA INDEX NAME)

```
ANSWER 4 OF 4 USPAT2 on STN
L7
AN
       2002:43580 USPAT2
TI
       Polycyclic aryl and heteroaryl substituted benzenes useful for selective
       inhibition of the coagulation cascade
IN
       South, Michael S., St. Louis, MO, United States
       Parlow, John J., Arnold, MO, United States
PΆ
       Pharmacia Corporation, Skokie, IL, United States (U.S. corporation)
PΤ
       US 6660885
                          B2
                               20031209
       US 2001-804959
ΑI
                                20010313 (9)
       US 2000-252159P
PRAI
                           20001120 (60)
       US 2000-188943P
                           20000313 (60)
DT
       Utility
FS
       GRANTED
EXNAM
       Primary Examiner: Kumar, Shailendra
       Number of Claims: 26
CLMN
       Exemplary Claim: 1
ECL
DRWN
       0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 8147
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       The invention relates to polycyclic aryl and heteroaryl substituted
       benzene compounds useful as inhibitors of serine proteases of the
       coagulation cascade and compounds, compositions and methods for
       anticoagulant therapy for the treatment and prevention of a variety of
       thrombotic conditions including coronary artery and cerebrovascular
       diseases.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    361340-15-0P
        (preparation of polycyclic aryl and heteroaryl substituted benzenes useful
        for selective inhibition of the coagulation cascade)
RN
     361340-15-0 USPAT2
     [1,1'-Biphenyl]-3-carboxylic acid, 5-amino-2'-[2-[[[4-
CN
```

(aminoiminomethyl) phenyl] methyl] amino] -2-oxoethyl] -4'-(cyclobutylamino) -

$$\begin{array}{c|c} & \text{NH}_2 \\ & \text{NH}_2 \\ & \text{C} \\ & \text{C} \\ & \text{NH} \\ & \text{C} \\ & \text{NH} \\ & \text{NH$$

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